Part III

Health and Safety Plan
for
133-135 Greenwich/21-23 Thames Street
Deconstruction/Demolition Project

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1.0 INTRODUCTION

This Health and Safety Plan (HASP) presents the practices and procedures that the Contractor shall implement and enforce during the abatement and demolition of the buildings located at 133-135 Greenwich/21-23 Thames Street in New York City (the Buildings). This HASP will be applicable to all persons entering the Buildings and to all persons working in and around the Buildings. The deconstruction of the Buildings will occur in two phases:

The Abatement Phase of the Deconstruction Project will occur while the work area is placed under negative pressure containment and includes the following general categories: (a) the general area cleanup of WTC dust and debris, (b) removal and disposal of installed porous and certain non-porous building materials and components, (c) cleaning and salvage of certain installed non-porous building equipment and components, (d) removal of building materials containing asbestos which were present in the Building prior to September 11, 2001 (referred to herein as "ACBM"), primarily within the Building interior, (e) packaging of asbestos and other regulated waste at generation points, movement of containers to the decontamination unit and movement of decontaminated containers to waste loading.

The Demolition Phase of the Deconstruction Project will occur following the Abatement Phase and removal all porous and contaminated materials, and will follow conventional demolition procedures. Deconstruction activities include the following general categories: (a) floor-by-floor deconstruction and removal of the remaining "clean" building components including exterior masonry walls, sub-flooring and structural wood frame components, and (b) general site work, including fencing, paving, if any, and drainage. Summaries of the potential physical, chemical and biological hazards that may be encountered during these tasks and the associated hazard control methods are presented in Table 2-1.

The clean-up and abatement will be conducted so that the Building can be safely deconstructed in compliance with applicable law to allow for redevelopment of the site.

The Contractor shall be supported on this project by the Owner's Environmental Consultant who will provide environmental testing, air sampling and asbestos project monitoring and serve the function of Environmental Consultant/Project Monitor.

1.1 BACKGROUND

The events of September 11, 2001, which caused the destruction of the WTC Towers generated massive debris and dust. While not physically damaged, some of this WTC dust entered into the 133-135 Greenwich/21-23 Thames Street Buildings. The Buildings had been partially reoccupied after September 11, 2001 following clearance of debris and unspecified cleaning to permit re-occupancy.

1.1.1 Environmental Characterization

The Owner contracted with Airtek Environmental Corp. to conduct Asbestos Surveys and General Building Characterization for the 133-135 Greenwich/21-23 Thames Street buildings. Due to the proximity of these buildings to the WTC, and the extensive environmental tests carried out at the adjacent 130 Liberty Street (Deutsche Bank) Building, it is assumed for the purpose of this HASP that similar potentially contaminated WTC dust is present at this site. The settled dust in and on the Building may contain elevated levels of five COPCs designated by the United States Environmental Protection Agency (USEPA) as being associated with the WTC dust (asbestos, dioxin, lead, polycyclic aromatic hydrocarbons [PAHs], and crystalline silica) as well as other contaminants suspected of being present in the Buildings including polychlorinated biphenyls (PCBs) and heavy metals (antimony, barium, beryllium, cadmium, chromium, copper, manganese, mercury, nickel and zinc).

The Owner has retained Airtek Environmental Corp. to conduct Environmental Investigations of the buildings for additional unidentified asbestos containing building materials (ACBM). These environmental reports are included as Attachment 2 to this HASP.

The requirements outlined within this Health and Safety Plan are based upon the data collected to date. As additional information is obtained during the course of the Abatement and Demolition activities, these requirements will be amended if necessary to protect workers or the public.

1.2 SITE DESCRIPTION

The Property is currently developed for a combination of commercial and multi-family residential use. The Property includes a vacant two-story commercial building that was constructed on the northwestern portion of the Property circa 1980. The building was most recently occupied by a pizza shop, a coffee shop, a Japanese restaurant, an Indian restaurant, a shoe repair shop, and second floor professional (doctors') offices. The Property also includes a vacant five-story building that was constructed on the southeastern portion of the Property prior to 1894. This building includes two ground floor tenant spaces most recently occupied by a sandwich shop, a Western Union office, and approximately eight residential units.

The Property is located within the urban commercial downtown Financial District of Manhattan, New York City, immediately south of the former World Trade Center site and adjacent to the vacant Deutsche Bank Building. The Property is bounded to the west by Greenwich Street, to the north by a four story mixed-use (commercial/residential) building, to the east by Finance and Economics High School, and to the south by Thames Street.

1.3 PURPOSE

This document presents the safety procedures and practices to be followed during all Abatement Phase and Demolition Phase site activities to ensure the safe completion of tasks. The procedures and practices herein are designed to prevent occupational injuries and exposures to chemical, physical and biological hazards to workers at the Site. The procedures are presented to ensure compliance with all applicable government agencies and regulations, including, but not limited to requirements and protocols established by: the Occupational Safety and Health Administration

(OSHA); the National Institute of Occupational Safety and Health (NIOSH); the United States Environmental Protection Agency (USEPA); the New York State Department of Conservation (NYSDEC); the State of New York, New York State Department of Labor (NYSDOL); the New York City Department of Environmental Protection (NYCDEP); and the City of New York.

This document incorporates relevant health and safety guidance developed for the Lower Manhattan Development Corporation's 130 Liberty Street building Deconstruct Project as described in their May 2005 Health and Safety Plan for that project.

Compliance with this HASP is required due to hazards associated with the Buildings' current condition and anticipated Abatement Phase and Demolition Phase activities. This HASP is based upon current knowledge of conditions at the Site and will be updated as new information (including personal and environmental sampling and field observations) becomes available and/or conditions change within the Building.

2.0 HEALTH AND SAFETY PROCEDURES

This section identifies the principal hazards associated with the tasks to be performed during the cleaning, asbestos and COPC abatement, and interior component removal and conventional demolition activities, and establishes standard safety and health procedures for the Contractor, the Subcontractors and anyone who comes onto the site. The content of this HASP is designed to anticipate, identify, evaluate, and control safety and health hazards for the work activities to be performed during this project. All on-site work activities by any Subcontractors and their designees shall be performed in accordance with this HASP, and in accordance with applicable federal, state, and local regulations.

The levels of personal protection and the procedures specified in this Plan are based on the best information available from validated reference sources (i.e., OSHA, NIOSH) and current site data. Therefore, the guidelines presented in this HASP represent the minimum health and safety requirements to be observed by all on-site personnel engaged in this project. Discovery of currently unknown site conditions or changes in the scope of work will necessitate the reassessment of the protection levels, controls, and procedures stated herein. All amendments to this HASP must be made in consultation with the Regulatory Agencies, and must have prior written approval by the Environmental Consultant's Certified Industrial Hygienist (CIH) and the Contractor's Project Manager.

2.1 PERSONNEL RESPONSIBILITIES

The Contractor, Subcontractor and other personnel on-site shall review and understand this document prior to working on-site.

All personnel shall:

1. Participate in initial site orientation/training as described in Section 2.9.1, and daily safety meetings, and shall provide any required documentation, medical clearance, fit test, asbestos certification, etc. prior to starting work on the site. Documentation requirements are determined by activities to be performed.

2. Sign the HASP Acknowledgement Form and other required documents after orientation to indicate that they participated in orientation and understood the information presented in orientation.

3. Follow the designated safety and health procedures; be alert to the hazards associated with working on the site, and exercise reasonable caution at all times.

4. Any questions or concerns about this HASP shall be directed to the on-site Contractor Project Manager and/or the Site Safety Officer.

5. Take all reasonable precautions to prevent injury to themselves and to their fellow employees, and being alert to potentially harmful situations.

6. Obey all applicable laws and regulations relating to health and safety.

7. Ensure that activities do not impact the neighboring community.

8. Perform only those tasks that they have been trained to complete and can do safely.

9. Notify their supervisor of any special medical conditions (i.e., allergies, contact lenses, diabetes) that may affect their ability to perform certain tasks.

10. Notify their supervisor of any prescription and/or non-prescription medication that they may be taking that might cause drowsiness, anxiety, or other unfavorable side affects.

11. Learn and comply with Site security requirements.

12. Comply with the Site's prohibition on drug and alcohol use, smoking, horseplay, and restricted eating/drinking areas.

13. Practice good housekeeping by keeping the work areas neat, clean and orderly.

14. Immediately reporting all injuries, incidents and near-misses to the designated supervisor.

15. Properly use PPE specified by the contractor and this HASP, based on the results of air monitoring.

16. Properly maintain their designated PPE per manufacturers' recommendations.

17. Comply with the HASP and all health and safety recommendations and precautions.

18. Notify their supervisor of any Site conditions or concerns which are not addressed by the protective measures specified in this HASP, or which are addressed but the employee does not understand the protective requirements specified herein.

2.1.1 Contractor

1. The Contractor Project Manager shall have overall responsibility for ensuring health and safety protection on the site and for ensuring that all elements of the HASP are implemented during all phases of the daily on-site activities of this project.

2. The Contractor Project Manager shall oversee the Contractor's responsibility to monitor for visible emissions.

3. The Contractor shall notify the Environmental Consultant's CIH of any need to change or amend any aspect of this HASP and/or seek input with regard to interpretations of the HASP in concert with the designated Safety Officers of the Subcontractors.

4. The Contractor shall consult with and coordinate any modifications to the HASP with the Environmental Consultant's CIH; will recommend corrective actions for identified deficiencies; and will oversee the implementation of any corrective actions.

5. The Contractor shall coordinate the health and safety activities of all the Contractor and Subcontractor personnel to ensure the requirements of the HASP are followed and shall communicate with all parties when changes occur on-site or when conditions impacting the site occur concerning the response actions to be taken.

6. The Contractor shall direct the implementation and enforcement of this HASP and consult with the Subcontractors regarding the health and safety procedures and practices to be used on this project.

7. The Contractor shall enforce the requirements of this HASP with respect to health and safety, air monitoring requirements and waste management requirements.

8. The Contractor shall perform on-site training and the day-to-day on-site implementation and enforcement of the HASP.

9. The Contractor shall ensure site compliance with federal/state/local regulations and all aspects of this HASP including, but not limited to; Performing activity hazard analyses, Providing guidance concerning the use of PPE, Ensuring site control, Developing standard operating procedures to minimize hazards such as the use of engineering controls.

10. The Contractor shall provide all necessary PPE and have "extras" for authorized visitors and agency representatives.

2.1.2 Contractor's Site Safety Officer (CSO)

1. The Contractor shall have a Site Safety Manager (CSO) on-site during the project on a full time basis for the entire duration of on-site field activities. If operations are performed during more than one work shift per day, a qualified Contractor Site Manager shall be present for each shift.

2. The CSO shall have authority to stop any and all work activities if unacceptable health and safety conditions exist or if actions occur that may affect safety and health conditions for personnel or the environment. The authority to stop work shall include an automatic work stoppage if visible emissions leave the Site perimeter.

3. The CSO shall act as the primary contact during any on-site emergency situation.

4. The CSO shall conduct accident investigations and prepare accident reports, prepare and maintain records of corrective actions taken on-site and document health findings into a project-dedicated logbook

5. Additionally, the CSO is responsible for logging all site visitors, checking for current medical and fit test certifications and applicable federal/state/local asbestos training for all those entering containment. The CSO does not provide specialized training for specific cleaning, abatement or interior component removal portions of the work. This shall be provided by each Subcontractor for its personnel. This does not excuse the CSO, however, from responsibility to see that this is done.

6. The CSO shall document each orientation performed and requires that each person receiving the orientation complete, sign and date the HASP acknowledgement.

7. The CSO shall review the following documentation from each Subcontractor to complete the administrative record for the site: name of Subcontractor's safety officer; list of emergency contact phone numbers; confirmation of current worker fit tests, medical clearances and asbestos training & certification for each Subcontractor employee; and Subcontractor HASP, including Hazard Communication Program, Fall Protection Program, Respiratory Protection Program, personal air monitoring program.

8. The CSO shall review MSDSs of products proposed for use at the site. If any product is hazardous, the CSO shall investigate potential alternate products that are non-hazardous.

2.1.3 Owner's Environmental Consultant

The Owner's Environmental Consultant shall provide a Certified Industrial Hygienist (CIH) and field industrial hygiene personnel during the project fieldwork. The CIH shall manage developing and modifying this HASP, directing field industrial hygiene personnel responsible for the execution and monitoring of any health and safety activities at the site, review of monitoring data generated during the site work, walk-through safety and health spot field inspections, and advising the Owner and Contractor of unacceptable conditions identified that may affect safety and health for personnel or the environment. The responsibilities of the Owner's Environmental

Consultant shall include monitoring for visible emissions as detailed in the Environmental Community Environmental Monitoring Plan (ECAMP)

2.2 HEALTH AND SAFETY HAZARD ANALYSIS AND RISK ASSESSMENT

2.2.1 Preliminary Evaluation

The work to be conducted at 133-135 Greenwich/21-23 Thames Street comprises construction activities and, as such, falls under Title 29 of the Code of Federal Regulations, Part 1926 (29 CFR 1926), the OSHA Construction Standard.

An evaluation of the anticipated general work activities was performed (discussed later in this section) that included a Hazard Analysis for each general task/activity to identify associated hazardous conditions, appropriate employee protection methods and PPE requirements. The evaluation of potential site conditions and activity hazards is an ongoing process and shall continue throughout the duration of the project.

Potential hazards during the Abatement Phase effort include the following:

- Physical – Excessive noise; inclement weather; heat stress; cold stress; manual lifting; slips and falls; structural integrity; working at elevation; electrical safety; heavy equipment operation; and other general construction hazards.

- Chemical – Asbestos, silica, PAHs, dioxins, man-made vitreous fibers (MMVF), antimony, cadmium, nickel, lead, barium, chromium, zinc, manganese, copper, beryllium, PCBs, mercury, copper, zinc, cristobalite and quartz.

- Biological – Mold; rodents; insects.

- Radiological – None anticipated.

2.2.2 Task Hazard Analysis

The scope of work for the 133-135 Greenwich/21-23 Thames Street project consists of five (5) general tasks, as follows:

Task 1: Environmental Consultant monitoring including work area air sampling and Community Monitoring duringPreparation, abatement, and demolition activities; clearance air sampling upon completion of asbestos and COPC abatement and removal activities; and waste characterization sampling.

Task 2: Maintain temporary services including water, fire protection and GFCI protected electrical.

Task 3: Preparation for and general area cleanup of WTC dust and debris, which as stated by the regulators must be treated as asbestos (at a minimum) and which may contain other COPCs; removal and disposal of installed porous and certain nonporous building materials and components contaminated by settled dust and debris; cleaning and salvage of certain installed non-porous building equipment and components contaminated by settled dust and debris; removal of ACBM from the Building; packaging and loading of regulated waste as identified during the implementation of the Waste Sampling and Management Plan.

Task 4: Demolition activities including the cleaning of the building exterior (i.e. building washdown), floor-by-floor deconstruction and removal of the remaining "clean" building components including exterior brick wall, flooring and structural wood frame components.

Task 5: General site work, including fencing, paving, if any, and drainage. Summaries of the potential physical, chemical and biological hazards that may be encountered during these tasks and the associated hazard control methods are presented in Table 2-1.

Table 2-1

Task 1: Environmental Consultant Air Monitoring and Waste Characterization

Equipment required: Air Sampling Equipment, Waste characterization e.g. (scoops, bowls, scale, safety blades, sample containers), PPE.

Subtask #	Activities	PPE Requirements*	Hazards	Preventative Mechanisms	Procedure**
1	Mobilization (Transporting employees, materials and equipment to site)	Level D	Use of vehicles	Vehicle and driving safety	Site Specific
2	Unloading equipment on the ground level	Level D	Lifting	Proper lifting techniques	Site Specific
			Site Security	Site Security	Site Specific
			Pinch points	Materials handling	Site Specific
			Insects	Biological hazard monitoring	
3	Waste characterization sampling	Level C***	Chemical COPC	Hazard Communication PPE	Site Specific
			Heat Stress	Heat monitoring	Site Specific
			Cold Stress	Cold monitoring	Site Specific
			Slip/trip/fall	Housekeeping	Site Specific
			Trespassers	Site Security	Site Specific
			Pinch points	Materials handling	Site Specific
			Hand tools	Proper use techniques	Site Specific
			Inadequate lighting	Illumination	Site Specific
4	Area air sampling during abatement activities	Level C***	Asbestos, Silica & Metals	Avoidance / Monitoring	Site Specific
			Noise	Noise Standard	Site Specific
			Heat Stress	Heat monitoring	Site Specific
			Cold Stress	Cold monitoring	Site Specific
			Slip/trip/fall	Housekeeping	Housekeeping Program
			Trespassers	Site security	Site Specific
			Pinch points	Materials handling	Site Specific
			Hand tools	Proper use techniques	Site Specific
			Inadequate lighting	Illumination	Site Specific
			Mold	Avoidance	Site Specific
5	Clearance air sampling	Level C***	Chemical COPC	Hazard Communication PPE	Site Specific
			Heat Stress	Heat monitoring	Site Specific
			Cold Stress	Cold monitoring	Site Specific
			Slip/trip/fall	Housekeeping	Site Specific
			Trespassers	Site security	Site Specific
			Pinch points	Materials handling	Site Specific
			Hand tools	Proper use techniques	Site Specific
			Inadequate lighting	Illumination	Site Specific
			Asbestos	Avoidance / Monitoring	Site Specific

Task 2: Maintaining Temporary Services

Equipment required: Hand and Power Tools, Ladders, PPE.

Subtask #	Activities	PPE Requirements*	Hazards	Preventative Mechanisms	Procedure**
1	Mobilization (Transporting employees, materials and equipment to site)	Level D	Use of vehicles	Vehicle and driving safety	Site Specific
2	Unloading equipment on the ground level	Level D	Lifting	Proper Lifting Techniques	Site Specific
			Heat Stress	Heat monitoring	Site Specific
			Cold Stress	Cold monitoring	Site Specific
			Slip/trip/fall	Housekeeping	Housekeeping Program
			Trespassers	Site security	Site Specific
			Pinch points	Materials handling	Site Specific
			Hand tools	Proper use techniques	Site Specific
3	Maintaining basic utilities to include:	Level C***	Chemical COPC plus plumbing chemicals	Hazard Communication PPE	Hazard Communication Program 29 CFR 1910.120(a) (i)
			Slip/trip/fall	Housekeeping	Housekeeping Program
			Pinch points	Materials handling	Site Specific
			Work from Elevation	Fall protection. Proper ladder use	
			Hand Tools	Proper use techniques	
			Hot Work	Hot work permitting. Fire prevention	
			Wet Feet	Avoidance techniques	
			Electrical Safety	Electrical safety – LO-TO	

Task 3: General area cleanup of WTC dust and debris, as stated by the regulators must by treated as asbestos (at a minimum) and which may contain other COPCs; Removal and disposal of installed porous and certain non-porous building materials and components contaminated by settled dust and debris; cleaning and salvage of certain installed non-porous building equipment and components contaminated by settled dust and debris; Removal of ACBM from within the building; packaging of regulated waste as identified during the implementation of the Waste Management Plan, movement of containers to decontamination unit and movement of decontaminated containers to waste loading area; and cleaning of limited, designated exterior surfaces Equipment required: heavy cleaning equipment, HEPA vacuums, hand/power tools, ladders, scaffolding, lifting equipment, PPE.

Subtask #	Activities	PPE Requirements*	Hazards	Preventative Mechanisms	Procedure**
1	Mobilization (Transporting employees, materials and equipment to site)	Level D	Use of vehicles	Vehicle and driving safety	Site Specific
2	Unloading equipment on the ground level	Level D	Lifting	Proper Lifting Techniques	Site Specific
			Heat Stress	Heat monitoring	Site Specific
			Cold Stress	Cold monitoring	Site Specific
			Slip/trip/fall	Housekeeping	Housekeeping Program
			Trespassers	Site security	Site Specific
			Pinch points	Materials handling	Site Specific
			Hand tools	Proper use techniques	Site Specific
3	Constructing containment areas and placing air handling units on the floors	Level C***	Chemical COPC plus adhesives	Hazard Communication PPE	Site Specific
			Heat Stress	Heat monitoring	Site Specific
			Cold Stress	Cold monitoring	Site Specific
			Use of ladders	Ladder safety	Site Specific
			Noise	Noise Standard	Site Specific
			Slip/trip/fall	Housekeeping	Site Specific
			Electrical sources	Electrical safety – LO-TO	Site Specific
			Lifting	Proper Lifting Techniques	Site Specific
			Pinch points	Materials handling	Site Specific
			Work from Elevation	Fall protection.	Site Specific
			Hand & power tools	Proper use techniques	Site Specific
			Inadequate lighting	Illumination	Site Specific
4	Area Clean-up of WTC Dust and Debris	Level C***	Chemical COPC	Hazard Communication PPE	Site Specific
			Heat Stress	Heat monitoring	Site Specific
			Cold Stress	Cold monitoring	Site Specific
			Electrical sources	Electrical safety – LO-TO	Site Specific
			Pinch points	Materials handling	Site Specific
			Use of ladders	Ladder safety	Site Specific
			Hand tools	Proper use techniques	Site Specific
			Noise	Noise Standard	Site Specific
			Inadequate lighting	Illumination	Site Specific
			Asbestos	Avoidance / Monitoring / PPE	Site Specific
			Lead	Avoidance / Monitoring / PPE	Site Specific
			PCBs	Avoidance / Monitoring / PPE	Site Specific
			Mercury	Avoidance / Monitoring / PPE	Site Specific
			Other chemicals	Avoidance / Monitoring / PPE	Site Specific
			Mold	Avoidance / Monitoring / PPE	Site Specific
			Lifting Equipment	Lifting safety	Hoist & Rigging SOP

Task 3: (cont.)

5	Removal and disposal of installed porous and certain non-porous building materials and components contaminated by WTC dust and debris	Level C***	COPC, silica & lead	Follow procedures	Site Specific
			Lifting	Proper lifting techniques	Site Specific
			Noise	Noise Standard	Site Specific
			Heat Stress	Heat monitoring	Site Specific
			Cold Stress	Cold monitoring	Site Specific
			Slip/trip/fall	Housekeeping	Site Specific
			Structural Damage	Structural integrity / PE inspection	Site Specific
			Demolition	Follow demolition plan	Site Specific
			Pinch points	Materials handling	Site Specific
			Work from Elevation	Fall protection.	Site Specific
			Hand tools	Proper use techniques	Site Specific
			Inadequate lighting	Illumination	Site Specific
			Lifting Equipment	Lifting safety	Hoist / Rigging SOP
6	Cleaning and salvage of certain installed non-porous building equipment and components contaminated by WTC dust and debris	Level C***	COPC, silica & lead	Follow procedures	Site Specific
			Lifting	Proper lifting techniques	Site Specific
			Noise	Noise Standard	Site Specific
			Heat Stress	Heat monitoring	Site Specific
			Cold Stress	Cold monitoring	Site Specific
			Slip/trip/fall	Housekeeping	Site Specific
			Structural Damage	Structural integrity / PE inspection	Site Specific
			Demolition	Follow demolition plan	Site Specific
			Pinch points	Materials handling	Site Specific
			Work from Elevation	Fall protection.	Site Specific
			Hand tools	Proper use techniques	Site Specific
			Inadequate lighting	Illumination	Site Specific
			Lifting Equipment	Lifting safety	Hoist / Rigging SOP
7	Removal of building materials contaminated with asbestos and ACBM	Level C***	Chemical COPC	Hazard Communication PPE	Site Specific
			Work from elevations	Fall Protection	Site Specific
			Heat Stress	Heat monitoring	Site Specific
			Cold Stress	Cold monitoring	Site Specific
			Electrical sources	Electrical safety – LO-TO	Site Specific
			Pinch points	Materials handling	Site Specific
			Use of ladders	Ladder safety	Site Specific
			Hand tools	Proper use techniques	Site Specific
			Noise	Noise Standard	Site Specific
			Inadequate lighting	Illumination	Site Specific
			Asbestos	Avoidance / Monitoring / PPE	Site Specific
			Lead	Avoidance / Monitoring / PPE	Site Specific
			PCBs	Avoidance / Monitoring / PPE	Site Specific
			Mercury	Avoidance / Monitoring / PPE	Site Specific
			Other chemicals	Avoidance / Monitoring / PPE	Site Specific
			Mold	Avoidance / Monitoring / PPE	Site Specific
			Lifting Equipment	Lifting safety	Hoist / Rigging SOP

Task 3: (cont.)

8	Packaging of regulated wastes identified from waste sampling during removal work	Level C***	Chemical COPC	Hazard Communication PPE	Site Specific
			Work from elevations	Fall Protection	Site Specific
			Heat Stress	Heat monitoring	Site Specific
			Cold Stress	Cold monitoring	Site Specific
			Electrical sources	Electrical safety – LO-TO	Site Specific
			Pinch points	Materials handling	Site Specific
			Use of ladders	Ladder safety	Site Specific
			Hand tools	Proper use techniques	Site Specific
			Noise	Noise Standard	Site Specific
			Inadequate lighting	Illumination	Site Specific
			Asbestos	Avoidance / Monitoring / PPE	Site Specific
			Lead	Avoidance / Monitoring / PPE	Site Specific
			PCBs	Avoidance / Monitoring / PPE	Site Specific
			Mercury	Avoidance / Monitoring / PPE	Site Specific
			Other chemicals	Avoidance / Monitoring / PPE	Site Specific
			Mold	Avoidance / Monitoring / PPE	Site Specific
			Lifting Equipment	Lifting safety	Hoist / Rigging SOP
9	Clean exterior surfaces.	Level C*** for Boom Lift	Work from elevations	Fall Protection	Site Specific
			Heat Stress	Heat monitoring	Site Specific
			Cold Stress	Cold monitoring	Site Specific
			Slip/trip/fall	Housekeeping	Site Specific
			Lifting	Proper lifting techniques	Site Specific
			Electrical sources	Electrical safety – LO-TO	Site Specific
			Pinch points	Materials handling	Site Specific
			Hand tools	Proper use techniques	Site Specific
			Inadequate lighting	Illumination	Site Specific
			COPC's & Asbestos	Hazard Communication PPE	Site Specific
			Structural Damage	Structural integrity / PE inspection	Site Specific
			Noise	Noise Standard	Site Specific
			Demolition	Follow demolition plan	Site Specific
			Materials handling	Materials handling	Site Specific
			Lifting Equipment	Lifting safety	Hoist / Rigging SOP
10	Removal of Miscellaneous hazardous materials (bulbs, ballasts, mercury containing thermostat, etc.)	Level C***	Chemical COPC	Hazard Communication PPE	Site Specific
			Structural Damage	Structural integrity / PE inspection	Site Specific
			Trespassers	Site Security	Site Specific
			Pinch points	Materials handling	Site Specific
			Hand tools	Proper use techniques	Site Specific
			Heat Stress	Heat monitoring	Site Specific
			Cold Stress	Cold monitoring	Site Specific
			Asbestos	Avoidance / Monitoring / PPE	Site Specific

Task 4: Demolition Phase deconstruction activities including the systematic floor-by-floor deconstruction and removal of the remaining "clean" building components including exterior brick wall, and structural components.

Equipment required: Heavy equipment, HEPA vacuums, hand/power tools, ladders, scaffolding, lifting equipment, PPE

Subtask #	Activities	PPE Requirements*	Hazards	Preventative Mechanisms	Procedure**
1	Mobilization (Transporting employees, materials and equipment to site)	Level D	Use of vehicles	Vehicle and driving safety	Site Specific
2	Unloading equipment on the ground level	Level D	Lifting	Proper Lifting Techniques	Site Specific
			Heat Stress	Heat monitoring	Site Specific
			Cold Stress	Cold monitoring	Site Specific
			Slip/trip/fall	Housekeeping	Housekeeping Program
			Trespassers	Site security	Site Specific
			Pinch points	Materials handling	Site Specific
			Hand tools	Proper use techniques	Site Specific
3	Constructing abatement areas for rooftop	Level C***	Asbestos	Avoidance / Monitoring / PPE	Site Specific
	Roofing, Flashing, Tar, Coping Stone Caulk		Heat Stress	Heat monitoring	Site Specific
			Cold Stress	Cold monitoring	Site Specific
			Use of ladders	Ladder safety	Site Specific
			Noise	Noise Standard	Site Specific
			Slip/trip/fall	Housekeeping	Housekeeping Program
			Electrical sources	Electrical safety – LO-TO	Site Specific
			Lifting	Proper Lifting Techniques	Site Specific
			Pinch points	Materials handling	Site Specific
			Work from elevations	Fall Protection	Site Specific
			Hand & Power Tools	Proper use techniques	Site Specific
			Inadequate lighting	Illumination	Site Specific
4	Removal of building materials contaminated	Level C***	Work from elevations	Fall Protection	Site Specific
	with ACBM		Heat Stress	Heat monitoring	Site Specific
			Cold Stress	Cold monitoring	Site Specific
			Electrical sources	Electrical safety – LO-TO	Site Specific
			Pinch points	Materials handling	Site Specific
			Use of ladders	Ladder safety	Site Specific
			Hand tools	Proper use techniques	Site Specific
			Noise	Noise Standard	Site Specific
			Inadequate lighting	Illumination	Site Specific
			Asbestos	Avoidance / Monitoring / PPE	Site Specific
			Lead	Avoidance / Monitoring / PPE	Site Specific
			Other chemicals	Avoidance / Monitoring / PPE	Site Specific
			Lifting Equipment	Lifting safety	Hoist / Rigging SOP
5	Packaging of asbestos waste at generation	Level C***	Work from elevations	Fall Protection	Site Specific
	points, movement of containers to		Heat Stress	Heat monitoring	Site Specific
	decontamination unit and movement of		Cold Stress	Cold monitoring	Site Specific
	area		Electrical sources	Electrical safety – LO-TO	Site Specific
			Pinch points	Materials handling	Site Specific
			Use of ladders	Ladder safety	Site Specific
			Hand tools	Proper use techniques	Site Specific
			Noise	Noise Standard	Site Specific
			Inadequate lighting	Illumination	Site Specific
			Asbestos	Avoidance / Monitoring / PPE	Site Specific
			Lifting Equipment	Lifting safety	Hoist / Rigging SOP

Task 5: Site Work (Fencing, Back Filling, Paving and Drainage)

Equipment Required: Trackloaders, Skidster Loaders, Small Tilt Sliders, Vibratory Rollers, Roller Compactor Truck.

Paving: Asphalt paving Equipment, Smooth Barrel Roller, Forklift, Area Lift

Subtask #	Activities	PPE Requirements*	Hazards	Preventative Mechanisms	Procedure**
1	Installation of Site Fences	Level D	Moving Equipment Open Excavation Evacuation of excavations before backfilling	Hand Signals Barricades Safety Watch	See Items 1-5 Below
2	Back Filling	Level D	Moving Equipment Open Excavation Evacuation of excavations before backfilling	Hand Signals Barricades Safety Watch	See Items 1-5 Below
3	Paving	Level D	Moving Equipment Open Excavation Evacuation of excavations before backfilling	Hand Signals Barricades Safety Watch	See Items 1-5 Below
4	Drainage	Level D	Moving Equipment Open Excavation Evacuation of excavations before backfilling	Hand Signals Barricades Safety Watch	See Items 1-5 Below

General Precautions – Site specific precautions to be determined as the detailed scope and schedule are developed. Care must be taken to reduce the risk of worker injury and property damage during backfilling or paving operations.

1. No backfill shall commence until all workers are clear of the working areas.
2. The operators of any machines or vehicles being used in backfilling operations shall keep other employees in sight at all times.
3. The operators of any truck employed in backfilling operations shall ensure that all workers are in the clear before approaching the ditch or dumping the load.
4. No equipment shall back closer than one (1) meter to the edge of any excavation and this set-back shall be increased commensurately with the depth of the excavation unless trenching sleds or other retention devices are employed.
5. No equipment shall material closer than one (1) meter to the edge of an excavation.

If site conditions change during the course of the deconstruction project, the Environmental Consultant will evaluate the new conditions and discuss appropriate amendments to the HASP with the Contractor. The proposed amendments shall be reviewed and approved by the Environmental Consultant's CIH and the Contractor Project Manager.

2.2.3 Physical Hazards

While the buildings at 133-135 Greenwich/21-23 Thames Street suffered no significant damage from the WTC Collapse, numerous physically hazardous conditions exist related to the deteriorated, run-down condition of much of the space in these buildings. These hazards include damaged electrical sources and components, falling hazards due to openings in the floors, or the possibility of materials falling from overhead. The primary physical hazards that may be encountered during this project are related to the Abatement Phase activities and include: heavy equipment operation; excessive noise; excessive heat or cold; inclement weather; manual lifting/handling of heavy objects; poor housekeeping; compromised structural integrity; traffic; hoists and other lifting equipment;, aerial lifts and manlifts; working at elevation; use of ; hazardous materials handling; potential utility and electrical sources; use of hand and power tools; slips and falls; etc.

Due to the existence of these hazards, the Contractor shall ensure that all site employees receive hazard awareness training. Additionally, the Contractor shall insure that Subcontractors perform the following operations under the direct on-site supervision of OSHA Competent Persons (provided by the Subcontractors for each task as necessary):

- General Construction (29 CFR 1926.20)
- Unsanitary Conditions (29 CFR 1926.27)
- Rigging (29 CFR 1926.251)
- Scaffolding (29 CFR 1926.450)
- Ladders (29 CFR 1926.1053)
- Personal Fall Arrest Systems (29 CFR 1926.500 and .502)
- Ear Protection (29 CFR 1926.101)
- Materials Hoists, Personnel Hoists and Elevators (29 CFR 1926.552)
- Demolition (29 CFR 1926.850)
- Welding/Cutting on surfaces covered by protective coatings (29 CFR 1926.354)
- Excavation (29 CFR 1926.650)
- Lead (29CFR 1926.62)
- Asbestos (29 CFR 1926.1101)
- Cadmium 1926.1127
- Hazardous Waste Operations and Emergency Response, 29 CFR 1926.65

2.2.4 Chemical Hazards

A chemical hazard that may be encountered during this project is asbestos. Based upon the most recent pre-demolition asbestos survey conducted by Airtek environmental Corp., approximately 57 linear feet of friable, and 726 square feet of non-friable asbestos-containing material has been identified. In addition, WTC dust with assumed varying concentrations of COPCs has been identified during visual inspection of the site. Therefore, the Contractor shall ensure that all site employees receive the required training concerning asbestos as well as all applicable Hazard Communication training.

In addition, personnel who have the potential to disturb ACBM shall be trained concerning the procedures to be used and requirements for notifications in accordance with federal, state and local regulations. Personnel who handle ACBM on this job shall have the required documented training and certificates. Each employee involved in abatement activities must have completed City of New York asbestos training, shall be a certified asbestos worker and/or supervisor by the City of New York, and shall be certified asbestos handler and/or supervisor by the New York State Department of Labor. Additionally, personnel who will conduct cleaning and abatement activities must have additionally received the required 40-hour training as outlined by 29 CFR 1910.120(a) (i) (HAZWOPER requirement) and appropriate annual refresher training as required. This HAZWOPER training requirement may be removed, should sampling indicate training requirement downgrade is appropriate. Training, medical and license documentation for each Subcontractor employee shall be verified by the CSO prior to start of work by the Subcontractor.

2.2.4.1 Additional Identified Chemicals

Other chemicals identified as potential contaminants that may be encountered during the initial site cleaning activities are PAHs, dioxins, antimony, cadmium, nickel, barium, chromium, lead, zinc, manganese, copper, beryllium, PCBs, mercury, copper, zinc, cristobalite and quartz.

Environmental sampling in the neighboring buildings has verified the presence of these chemical contaminants in WTC dust in concentrations exceeding USEPA's Residential Cleanup Criteria.

Additional chemical hazards generated from deconstruction activities would be lead, cadmium, and chromium from coated surfaces. Subcontractors shall perform personnel monitoring for all COPCs as required by OSHA. In addition, Subcontractors must provide applicable OSHA training for the identified hazards. Documentation of this training must be provided by the Subcontractor.

Precautions to be taken during the removal of miscellaneous hazardous materials (bulbs, ballasts, batteries, mercury-containing thermostats, etc) are found in Table 2-1, Task 3. Respiratory protection, as identified within Table 2-1, represents the minimum level of protection for all identified tasks.

There may also be hazardous chemicals brought on-site and used in the deconstruction. The requirements of the OSHA Hazard Communications Standard (29 CFR 1910.1200) shall apply. *Section 2.8* provides information concerning the management of hazardous chemicals on-site and the site Hazard Communication Program. No hazardous materials shall be brought on site during the abatement phase of this project.

2.2.5 Biological Hazards

Biological concerns in the work area are primarily, insects, rodents, and mold/fungi.

2.2.5.1 Insects

The presence of insects shall be addressed by personnel as the insects are encountered. When a stinging or poisonous insect, such as a bee or spider, is identified, personnel should exercise caution to avoid being bitten or stung for example by using tools to move material. In the event that a person is stung or bitten, the incident shall be reported to the Site Manager for the Subcontractor who shall report the incident to the CSO. The Site Manager for the Subcontractor shall initiate actions to manage and address the bite or sting. Personnel who are allergic to insect bites and stings should identify their allergy to their employer.

2.2.5.2 Rodents

In the event that rodents or animal pests are identified or observed on-site, the Subcontractor Manager should report the incident to the Contractor CSO. The Contractor shall be responsible for evaluating the condition and implementing steps to eliminate rodents on the site.

2.2.5.3 Mold/Fungi

The initial building walk-though by Airtek environmental identified mold contaminated building materials/components within the Building. The identification of additional mold/fungi on-site will be made based on visual inspections of building materials. When mold/fungi are identified, the removal of impacted materials shall be addressed concurrently with Asbestos Abatement Activities. Removal and handling measures shall be consistent with the NYC Department of Health and Mental Hygiene "Guidelines on Assessment and Remediation of Fungi in Indoor Environments."

2.3 ENGINEERING CONTROLS

Engineering controls will be used as primary protective mechanisms to protect the safety and health of all employees whenever technically feasible, and prior to the implementation of Administrative Controls and/or personal protective equipment. Each Subcontractor shall be responsible for the provision and implementation of the following:

- Construction/demolition dust suppression materials and equipment to include:
    - HEPA-filtered air filtration devices to reduce area dust levels.
    - Vacuum cleaners equipped with HEPA filters.
    - Fume eductors attached to HEPA filters for all hand-powered tools.
- Removal of all lead-based painted materials (if necessary), and adequate exhaust ventilation provided.
- Barricades, railings or other devices to prevent employee exposure to fall hazards or moving equipment per 29 CFR 1926.

- Other task-specific engineering controls as recommended by OSHA guidelines or as recommended by the Contractor or the CIH.

2.4 ADMINISTRATIVE CONTROLS AND WORK PRACTICES

Each Subcontractor shall utilize administrative controls and work practices as a secondary means of ensuring worker health and safety when engineering controls do not provide sufficient protection or are technically infeasible. Each Subcontractor shall be responsible for the provision and/or implementation of the following:

Ensuring all employees are enrolled in a medical monitoring program as required by OSHA, including medical monitoring for blood lead levels as outlined in Section 2.13 of this HASP.

Ensuring all employees have current fit-test and training certifications.

Implementing work practices that avoid generating dust whenever possible.

Requiring that all employees implement decontamination procedures, including washing hands, face, hair and neck upon leaving the work area and before eating, drinking or smoking.

Removing lead based paint or coatings before cutting, grinding or other activities that would be expected to disturb the lead-based materials, or complying with the provisions of 29 CFR 1926.62.

Use of the Buddy System will be required for all employees working within the Exclusion Zone, as defined in Section 2.8.1 below, or while performing non-standard tasks as designated by the Subcontractor's Safety Officer.

2.5 PERSONAL PROTECTIVE EQUIPMENT (PPE)

Personal protective equipment will be used to provide adequate personnel protection only after feasible engineering and administrative control options have been exhausted. All personnel engaged in the project work activities will use the appropriate level of protection as required by the activity to be performed and are presented in the "Task Hazard Analysis" presented in Table 2-1.

All PPE requirements for site activities are based upon available historical site characterization data, knowledge of the anticipated hazards, and minimum requirements set forth by City, State and Federal rules. Changes in levels of PPE and changes in the PPE requirements for specific areas shall be made based upon the results of monitoring, visual observations and the nature of the site operations, including the presence of or potential for previously unidentified chemicals or conditions.

In accordance with OSHA 29 CFR 1910.132-138 and 1926.28 (Personal Protective Equipment), all PPE shall be provided, used, and maintained in a sanitary and reliable condition. All PPE shall be of construction, design, and material to protect employees against known or anticipated hazards. PPE shall be selected that properly and appropriately fits the employee. PPE shall be worn in compliance with PPE requirements of NYC DEP and OSHA.

2.5.1 Basic PPE Requirements

Each employee will wear a hard hat and safety glasses or other eye protection at all times while onsite, except for designated "safe" areas. Eye protection includes safety glasses, safety goggles, welding goggles, welding hoods, or full-face respirators. Prescription or non-prescription eyeglasses and sunglasses are not approved for eye protection. All acceptable eye protection must include side shields and must be ANSI-approved.

Unless in designated safe locations, all personnel shall have with them and/or wear the following PPE when entering the site:

Work clothes without loose sleeves and cuffs

American National Standards Institute (ANSI) - approved safety boots

ANSI - approved safety glasses

ANSI - approved hard hat with bill facing forward

Work gloves (either leather or cotton)

Hearing protection (as necessary)

The above listed PPE ensemble, defined as Level D, shall be worn during all outdoor site activities and inside of the building after clearance testing has been completed.

2.5.2 Level C PPE

Level C PPE shall be worn when working inside of the building (with the exception of previously cleaned areas such portions of the basement occupied by field offices) during all Abatement Phase activities, except for concrete jack hammering in enclosures. Level C PPE consists of:

Full-face powered air-purifying respirator (PAPR) with HEPA filter approved by the National Institute for Occupational Safety and Health (NIOSH)/Mine Safety and Health Administration (MSHA). Half-face air-purifying respirators (APR) may be used during work preparation activities.

Gloves - nitrile inner; chemical resistant outer (nitrile or neoprene)

ANSI-approved safety boots

ANSI–approved Eye protection – safety glasses or goggles

ANSI-approved hardhat with bill facing forward

Tyvek coveralls with head cover (Two layers Tyvek or equivalent)

Water-resistant over boots which are treaded to provide slip protection

Hearing protection (as necessary)

2.5.3 Level B PPE

Level B PPE may be required during jack hammering concrete unless engineering controls are instituted incorporating local exhaust ventilation at the point of dust generation until personal air monitoring confirms that the level of silica is below the OSHA action level. Level B PPE consists of:

Self-Contained Breathing Apparatus (SCBA) or combination airline/SCBA approved by the National Institute for Occupational Safety and Health (NIOSH)/Mine Safety and Health Administration (MSHA).

Gloves - nitrile inner; chemical resistant outer (nitrile or neoprene)

ANSI-approved safety boots

ANSI–approved Eye protection – safety glasses or goggles

ANSI-approved hardhat with bill facing forward

Tyvek coveralls with head cover (Two layers Tyvek or equivalent)

Water-resistant over boots which are treaded to provide slip protection

NOTE: If air sampling data proves that the level of asbestos and COPCs are consistently below the action level, respiratory protection may be downgraded to an appropriate level of protection.

Hearing protection (as necessary)

2.5.4 Level A PPE

Use of this type of PPE is not anticipated at this site. Should work conditions and personnel sampling exceed action levels for a PPE upgrade to Level A, operations shall cease in that area until site conditions can be re-evaluated by the Contractor and the Environmental Consultant's CIH.

2.6 SAFETY EQUIPMENT

The following emergency equipment will be located in the CRZ: fire extinguishers, spill control equipment, and decontamination equipment.

Communication equipment will include radio contact between the Contractor CSO, and each crew supervisor. Emergency evacuation will be communicated by air horn. Safety orientation will include a review of these procedures, and a test of the evacuation signal. In the event of an emergency condition, the Contractor CSO will notify project personnel verbally if all are within immediate hearing and via air horn/bullhorn workers are within the buildings. The Contractor CSO will also notify visitors present within the area. Site personnel will immediately proceed to a pre-designated assembly area as illustrated in Figure 1-2. Personnel will remain in the designated area until further instructions are received by the CSO. All communication equipment will be tested at the beginning of each day to verify operational integrity.

The requirements for PPE on this job may be refined and changed to address the conditions identified when tasks are performed. The Subcontractors will work with the Contractor to ensure the proper PPE is maintained and available on-site at all times, and that personnel are trained to use the PPE and understand the procedures and practices for the safe and effective use of PPE. The Subcontractors will provide the required PPE for their employees.

The PPE requirements presented in this HASP are the minimally acceptable for the specified activity. Subcontractors can make individual decisions to upgrade the equipment requirements for each PPE level to ensure the hazards presented by an activity are controlled and exposure is minimized. Engineering and administrative controls will be identified and implemented for each activity prior to use of PPE.

2.6.1 Respiratory Protection Program

Respiratory protection is required whenever work is performed inside the building to protect the workers from exposures to contaminants, primarily asbestos, which may be present. Half-face negative pressure air purifying respiration particulate filters that are HEPA or P100 shall be required during work preparation activities (i.e. installation of isolation barriers) and PAPR will be used during other Abatement Phase activities, unless Level B is required. Environmental Consultant's CIH or qualified subcontractor IH personnel will evaluate the need for additional protection such as adding organic vapor cartridges based on their respiratory protection programs and chemicals they may be using. The following practices will be conveyed to all employees and enforced by the Contractor and the CSO respect to respiratory equipment for this project:

1. Contractors whose personnel wear respiratory protection shall have a written respiratory protection program that meets the requirements of the OSHA Standard (29 CFR 1910.134) and has been developed by a Competent Person as defined by OSHA.

2. Personnel who may need to wear respiratory protection shall be fit-testing, medically qualified and trained, as required by the Standard, to use respiratory protection. The Subcontractor shall identify personnel who may use respiratory protection and documentation of fit-testing, medical qualification and training shall be provided for each person who may need to wear respiratory protection on the job.

3. Personnel shall review with the Contractor CSO the procedures for the handling, storage and maintenance of respiratory protective equipment to be used on-site, including the process for reporting and repairing or replacing defective equipment and the locations where respiratory equipment will be stored.

4. Contractors will provide employees with adequate respiratory protection as required by each task.

5. A respirator of lesser protection factor than is required for the task/activity may not be used.

6. Each employee will change his/her respirator filter at the end of each work shift. The Contractor will provide an adequate supply of approved filters in accordance with the manufacturer's specifications for daily replacement for each employee's respirator.

7. Each Contractor will ensure the adequacy of respiratory protection for his employees based upon the verified results of personal air sampling.

8. If at any time air sampling data indicates airborne exposures exceeding one-half the OSHA Permissible Exposure Limit, all affected employees' respiratory protection will be upgraded.

9. Personal air sampling results shall be posted on the Decontamination unit during the abatement phase, and the site management station during the demolition phase.

2.6.1.1 Respirator Testing

Each individual who must wear a respirator will be required to be clean-shaven where the sealing areas of the respirator face piece contacts the face. Each respirator user will be respirator fit-tested in accordance with 29 CFR 1910.134 at least annually. Upon donning the respiratory device or before entering any restricted work area, each respirator wearer will be required to perform a manual negative and positive-pressure test. Contractor employees who fail the negative/positive pressure test because they are not clean shaven will be required to leave site for the day or to shave on-site immediately preceding entry into the work area.

2.6.1.2 Respirator Inspection, Sanitization, and Maintenance

All respirators will be cleaned, sanitized, inspected, assembled, and maintained ready for use on a daily basis. Each respirator will be stored in a clean and sanitary container. Prior to use, the wearer will inspect the respirator, including the valves, valve covers, nosepiece, straps, eyepiece (for full-face respirators), face piece and its snaps, cylinders, and canisters to insure that the respirator can be worn. The Subcontractor will provide initial training concerning the use of respirator equipment, but each employee will be responsible for cleaning, inspecting, maintaining, sanitizing, and storage of his/her respirator equipment.

If a respirator becomes chemically contaminated or malfunctions, the respirator will be replaced by the employer with a clean and sanitized respirator, and the contaminated/defective respirator

shall be decontaminated and repaired before reuse, or tagged "out of service" and disposed of. The respirator wearer shall inspect the replacement respirator for defective parts and leaks and will be fit tested if the replacement respirator is of a different make, model or size than the original.

2.6.2 Medical Response Equipment

The following medical response equipment shall be available on-site for the duration of the site activities. The locations of these equipment stations shall be determined at the site and incorporated into this HASP upon initiation of each task. The Contractor CSO shall maintain responsibility for the incorporation of this information into this HASP.

- Eyewash Stations: The location of emergency eyewash stations shall be determined. Each station shall provide a continuous spray of a rate of 0.4 gallons per minute for at least 15 minutes. This station shall be inspected daily to ensure proper operation.

- First Aid Kits: The locations of fixed and/or portable kits shall be determined. As a general guideline, each Subcontractor shall provide, at minimum, one first aid kit for every 20 employees and shall station it within the work area (for Level D operations) or directly outside the decontamination area (contaminant reduction zone) (for Level C or Level B operations).

The locations of eyewashes and first aid kits and the procedures for using and reporting an incident shall be presented during the initial on-site training. The Contractor CSO shall make all personnel aware of the locations and use of this equipment prior to engaging in site work activities.

2.7 PERSONAL AIR MONITORING

Each Contractor and trade employer shall perform personnel air sampling for the following contaminants during Abatement Phase of the project: particulates as TSP, metals as TSP, asbestos, PAHs, D/Fs, PCBs, mercury, lead and silica. Additionally, daily personnel sampling for lead, cadmium, chromium and mercury shall be performed during all cutting operations as required by 29 CFR 1926.62(d)(2)(iv) and the Cadmium in construction standard [29 CFR 1926.112]. The results of personnel monitoring will be reviewed on a daily basis by the Contractor Safety Officer to determine if current levels of respiratory protection are adequate. The subcontractor safety officer shall provide written documentation of this review to CSO and the subcontractor must immediately report any results that trigger PPE upgrades. The following table lists the OSHA PEL, site specific Action Level, and trigger levels:

Table 2-2

Contaminants	OSHA PEL	Action Level (Half value of OSHA PEL)	10 X OSHA PEL (Protection factor for Half-face APR)	100 X OSHA PEL (Protection Factor for Full-face PAPR)
Asbestos	0.1 f/cc	0.05 f/cc	1 f/cc	10 f/cc
Antimony	0.5 mg/m^3	0.25 mg/m^3	5 mg/m^3	50 mg/m^3
Barium	0.5 mg/m^3	0.25 mg/m^3	5 mg/m^3	50 mg/m^3
Beryllium	0.002 mg/m^3	0.001 mg/m^3	0.02 mg/m^3	0.2 mg/m^3
Cadmium	0.005 mg/m^3	0.0025 mg/m^3	0.05 mg/m^3	0.5 mg/m^3
Chromium (III)	0.5 mg/m^3	0.25 mg/m^3	5 mg/m^3	50 mg/m^3
Copper	1 mg/m^3	0.5 mg/m^3	10 mg/m^3	100 mg/m^3
Lead	0.05 mg/m^3	0.025 mg/m^3	0.5 mg/m^3	5 mg/m^3
Manganese	5 mg/m^3	2.5 mg/m^3	50 mg/m^3	500 mg/m^3
Mercury	0.1 mg/m^3	0.05 mg/m^3	1 mg/m^3	10 mg/m^3
Nickel	1 mg/m^3	0.5 mg/m^3	10 mg/m^3	100 mg/m^3
Zinc	5 mg/m^3	2.5 mg/m^3	50 mg/m^3	500 mg/m^3

2.8 SITE CONTROL

Site control measures shall be implemented to protect the public and personnel working on-site. The aspects of site control shall address general access to the site; and access to the building and site during the project.

Fences, guardrails and access devices, including ladders, stairways, and walking surfaces shall be provided and maintained throughout the project activities in accordance with 29 CFR 1926. In addition, barricades, warning signs, temporary lighting and other safety measures shall be provided, as required, to protect site personnel.

All visitors to the site shall report first to the Contractor field office. Visitor access shall be limited to the Support Zone and Level D operation areas only, and shall be allowed only with the prior consent of the Contractor Site Manager.

No visitor (other than regulatory inspectors) shall enter a work area unescorted by a Contractor or Contractor representative. The presence of any regulatory agency on-site shall be reported immediately to the Contractor Site Manager.

2.8.1 Work Zones

Entry into the work zones begins once a person comes on-site. This approach reflects the dynamic nature of the operations and the need for everyone to be aware of the conditions while on-site. Using the concept of three zones for the site, the following areas are identified:

• Support Zone – This area starts at the project/property fence line and extends to the entry to where personnel enter the building to complete the work tasks. This area includes the ground outside of the building and any office spaces. In this area all personnel shall wear Level D PPE. Within this area exclusion zones may be established depending on the operations, for example:

where material handling is performed, where hoisting equipment is located or where equipment is staged.

• Decontamination Unit/Contamination Reduction Zone (CRZ) – This area shall be located subject to approval of the variance. The CRZ shall exist until the completion of Abatement Phase activities. Personnel shall be aware of and follow all site control procedures with respect to entering and exiting the CRZ, to ensure that they are not exposed to contaminants and to minimize the potential for contamination of personnel and the spread of contamination outside the Exclusion Zone (EZ). These measures include having personnel follow the proper procedures for donning and removal of PPE and washing in the CRZ. The measures also address the decontamination procedures for use when moving equipment between zones. The CRZ shall consist of an area to drop off equipment, plastic bags to dispose of protective clothing, adequate soap and water for personnel and equipment decontamination and a means of capturing wash water generated during decontamination. The CRZ shall also have a first-aid kit, fire blanket and fire extinguisher (20-lb ABC type).

• Exclusion Zone (EZ) – This area extends from the side of the CRZ facing the building and includes all areas on each floor of the building. This definition of the EZ shall remain effective until Abatement Phase activity on each floor is completed. No employee shall enter the Exclusion Zone without the required training and PPE. No employee shall eat, drink, chew gum, apply cosmetics, smoke or use other tobacco products while in the Exclusion Zone. The employee must first exit the Exclusion Zone and follow decontamination procedures (Section 2.8.2.1) in the CRZ before engaging in any of the above actions. In the event that an employee in the EZ requires a replacement or his/her protective suit or respirator filters, the employee shall exit the EZ and utilize proper decontamination procedures in the CRZ, replace or repair the defective PPE, then reenter the EZ.

2.8.2 Personnel and Equipment Decontamination

When exiting the EZ, personnel shall be aware of and follow the procedures used to decontaminate personnel, equipment, and sampling containers. Subcontractors shall ensure that their employees follow proper decontamination and waste disposal procedures. Disposal of PPE and other items shall be performed in accordance with Section 3 of this HASP, with material placed in appropriately sized and labeled containers. Specific decontamination procedures are presented in the following subsections. All decontamination procedures shall be in accordance with the Entry/Exit Procedures of NYC Title 15, Chapter 1.

2.8.2.1 Personnel Decontamination Procedure

Personnel entering containment are required to follow proper decontamination procedures. All employees who leave the Exclusion Zone shall follow the decontamination process as outlined below.

All employees shall remove all gross contamination and debris from disposal protective clothing and equipment by vacuuming prior to leaving the EZ. All employees must be HEPA vacuumed before entering the CRZ. Upon entering the CRZ, each employee shall remove the first layer of protective clothing and place it in the appropriate container. If the employee performs duties and

becomes "grossly contaminated", the decontamination procedure will include an Alconox (soapy) wash and a tap water rinse of the outer suit, gloves and over boots prior to removal of the outer layer.

After employees remove the first layer of tyvek and gloves, they shall then move into a second decon area where the second tyvek and gloves shall be removed and placed in the appropriate waste container. After this decontamination, personnel shall proceed to a washing facility to take full showers. The employee shall dispose of all protective clothing upon exiting the decontamination unit; all half-face APR respirator cartridges, if used, shall be changed out, as needed, but on a daily basis at a minimum. Full-face PAPR cartridges may be utilized more than one day if functioning as designed and sealed and decontaminated after each use.

2.8.2.2 Equipment Decontamination Procedure

Since equipment decontamination is difficult, unnecessary equipment shall not be brought into the controlled areas. All materials used in the regulated area shall be properly HEPA vacuumed and wet-wiped before leaving the first decontamination zone. All equipment that becomes "grossly contaminated", will require an Alconox wash and tap rinse.

2.8.3 Safety Meetings

A safety meeting shall be held each day with the Contractor prior to initiating the scheduled activities and at the beginning of each day. The topics and content for the Safety Meeting shall be prepared in advance by the Contractor. The safety meeting shall review elements in the site HASP and the procedures for working on-site, and address the impacts of changes to the site conditions.

Topics to be addressed include:

- Use and maintenance of PPE
- Evacuation routes;
- Warning signals;
- Maintaining line-of-sight and communications;
- Rehearsal of scheduled activities;
- Hospital routes;
- Locations of safety equipment;
- Previous violations of the safety plan and procedures or changes to the program to correct the violation;
- Anticipated hazards for the day's work activities;
- Any changes to the requirements for levels of PPE;
- The locations of work zones; and
- General site conditions.

All safety meetings shall be documented in the site H&S logbook. Meeting participants shall sign an attendance sheet.

2.9 TRAINING PLAN

All personnel directly involved in the project site activities shall be trained for the tasks they will perform, as required by applicable federal/state/local regulations. Refresher training will be performed at least yearly. In addition, all site personnel shall participate in site-specific training and participation of personnel in training shall be documented, with proof of training maintained on-site. The topics of training required are dependent on the SOW. This training shall be administrated by the Contractor, or certified training facilities.

2.9.1 Health and Safety Awareness Training

Each Contractor shall be responsible for presenting and discussing the elements of this HASP with their personnel, and ensuring that personnel follow the elements of this HASP when working on-site. Prior to the start of work activities, or whenever a new hazard is introduced into the work area, employees shall be provided with the information indicated below. The Contractor or HASP CIH shall be available to address any questions or assist in the presentation of the HASP information to project employees. Information to be addressed during this training shall include, but not be limited to:

- Hazardous chemicals present at the work site and their associated health risks.
- Potential physical hazards associated with the work activities, and proper safety practices.
- Proper use of all tools and equipment to complete the scope of work activities.
- Requirements of the site Hazard Communication Program, including the labeling of containers.
- Site alarm system, emergency response procedures, and location of emergency lay down Area.
- Proper PPE to be used during work activities.
- Location of the MSDS files.
- How to reduce or prevent exposure to hazardous chemicals through the use of procedures, work practices, and personal protective equipment.

2.9.2 Asbestos Training

ACBM was determined to be in several building components per the Airtek Building Asbestos Survey. Building Personnel entering containment shall be trained to identify ACBM and the hazards associated with asbestos in accordance with the OSHA Asbestos Standards (29 CFR 1910.1001 and 29 CFR 1926.1101) and state/local certification requirements. This training provides personnel with a better understanding of asbestos and the steps to be taken to protect themselves and the public. In all areas, required NYSDOL and NYCDEP procedures shall be followed.

2.9.3 HAZWOPER Training

Personnel entering the exclusion or contamination zones for the purpose of performing cleanup abatement activities must have received the required 40 hour training as outlined by 29 CFR

1910.120(a) (i) and appropriate annual refresher training as required. This HAZWOPER training requirement may be removed, should sampling indicate training requirement downgrade is appropriate.

2.10 PERSONAL PROTECTIVE EQUIPMENT TRAINING

Each Contractor shall provide training concerning the use of PPE to their personnel, as specified by this plan, to address the general PPE requirements and any specific requirements for PPE they may use, such as fall protection. The Contractor CSO can assist with this training, and any concerns regarding the use of appropriate PPE shall be brought to the attention of the Contractor CSO. Further discussion of the types of PPE is presented in Subsection 2.5 of this HASP

2.10.1 Emergency Response Training

Emergency response training, in accordance with the Emergency Action Plan found within Section 2 of this HASP, shall be provided to all on-site-personnel as part of the site-specific safety and health awareness training. The emergency response training shall be conducted by each Subcontractor's Safety Officer for her respective employees. At a minimum, the topics of this training shall include the following:

- Location of all site emergency equipment
- Response procedures for fires
- Response procedures for injuries and accidents
- On-site/off-site response resources
- Emergency site operations shut down procedures
- On-site "Chain of Command"
- Designated on-site emergency meeting location
- Recognition of evacuation signals and alarms

2.10.2 Visitor Training

Authorized Visitor: The client, his representative and any representative of a regulatory or other agency having jurisdiction over the project.

During the Abatement Phase all visitors entering the EZ must provide proof of an up-to-date fit-testing and medical clearance, and completion of asbestos certifications required for the employee's scope of work. In addition each visitor will receive site-specific training by the Contractor CSO that includes:

- Location and description of potential hazards and risks
- Required PPE
- Areas of the site that may be closed to visitors
- The site evacuation plan and emergency procedures
- Other Topics as deemed appropriate by the Contractor SSM

2.10.3

Because of lead and cadmium being identified as COPCs and the potential for lead fumes or dust to be produced in deconstruction from building materials, subcontractors will provide proof of training required in OSHA Specific Standards 29 CFR 1926.65 (Lead in Construction) and 1926.1127 (Cadmium).

2.11 HAZARD COMMUNICATION

The Contractor shall notify the Contractor CSO of any hazardous products prior to bringing the chemical on site and shall provide a MSDS for each product. These MSDSs shall be maintained by the Contractor CSO and shall be kept in a site master file. In addition, each Subcontractor shall maintain a copy of the MSDS for each product that they bring on-site.

The CSO will have the responsibility to review MSDSs for hazardous materials proposed for the site in order to investigate potential alternate products that are non-hazardous.

The Contractor shall review with the Contractor CSO the procedures for handling, using and storing the chemicals brought on-site, and shall review with their personnel the proper procedures for handling, using and storing the chemicals before the product is used on-site. This includes but is not limited to all commercial products brought on-site by Subcontractors, including commercial cleansers, degreasers, lubricants and paints.

2.11.1 Container Labels

All containers of hazardous and non-hazardous materials shall be labeled in accordance with appropriate standards. The labels on containers provided by the manufacturer, importer, or distributor shall be used.

Labels affixed to containers of hazardous materials shall:

- Identify the material using a name with which workers are familiar,
- Identify the hazards associated with the material, including toxicity information
- Identify the material using a name with which workers are familiar.
- Identify the hazards associated with the material, including toxicity information that indicates symptoms and target organs.
- Identify the name, address, and telephone number of the manufacturer, importer or distributor where more information may be obtained.

Labels shall not conflict with Hazardous Materials Transportation Act (HMTA) labeling requirements and shall meet the requirements of OSHA substance-specific health standards, where required.

Labeling shall be required of all portable/temporary hazardous and non-hazardous materials containers at all times. The contractor/subcontractor shall prepare a container label on portable

containers filled from a correctly labeled container and when the container label is defaced or illegible. The prepared temporary label shall indicate pertinent chemical identification and health information as required by OSHA.

All hazardous materials containers shall be labeled for content, hazard, and storage prohibitions, such as those relating to temperature range and chemical incompatibility with other materials and/or wastes. The labels shall be in compliance with requirements of New York State law. Containers containing hazardous waste shall also be labeled or marked clearly with the words, "Hazardous Waste".

2.11.2 Material Safety Data Sheets (MSDSs)

All MSDSs shall be submitted by the Subcontractors and shall be maintained by the Contractor CSO within a site master file. In addition, each Subcontractor shall maintain a copy of the MSDS for each product that they bring on-site. In addition, each Subcontractor shall also retain a log of MSDSs for chemicals used on this project and this log shall be kept on-site. The location of the MSDS folder shall be made known to all project employees.

Each Subcontractor shall review incoming MSDSs for new or significant health and safety information and shall ensure that any new information is communicated to affected employees, the Contractor SSM and other subcontractors. If an MSDS is not received at the time of initial shipment of materials, the material may not be used until the MSDS has been obtained from the manufacturer.

Employees shall be instructed to notify their Site Manager if an MSDS is not available. When a revised MSDS is received, the Site Manager shall immediately replace the old MSDS. Subcontractors shall insure that the MSDSs on file for their chemicals are current (updated within the last two years)

2.12 ACCIDENT PREVENTION & INVESTIGATION

A vital element of maintaining safe work practices is accident prevention. The following four actions are instrumental to accident prevention, and shall be communicated to all project personnel:

- Eliminate unsafe conditions. Efforts shall be initiated and implemented throughout the project to identify conditions that can contribute to an accident, and to remove exposure to these conditions. Each Subcontractor Safety Officer shall audit the work area prior to each shift to identify and correct any unsafe conditions.

- Reduce unsafe acts. Personnel shall make a conscious effort to work safely. A high degree of safety awareness shall be maintained so that safety factors are an integral part of each task. Daily safety briefings shall be designed to heighten general safety awareness and will be tailored to the individual audiences and tasks each day.

- Inspect frequently. Regular safety inspections of the work site, material, equipment, and operations by qualified persons (i.e., Contractor CSO) shall be performed to ensure early detection of unsafe conditions. Safety and health deficiencies shall be corrected as soon as possible, or site activities shall be suspended. All inspections shall be documented and the records retained by the Subcontractor for, at a minimum, the duration of the project. Copies of the inspection reports shall be provided to the Contractor CSO or Contractor Project Manager upon request,

- Educate personnel concerning the requirements of the HASP. The HASP and all site health and safety education shall be provided by each Contractor.

All minor accidents (i.e., small fires, injuries, and near misses) shall be investigated by the Contractor CSO immediately when reported to the Contractor An accident investigation shall include reviewing the accident/incident report, questioning the injured employee(s) as well as other personnel witnessing the occurrence, identifying all contributing acts and conditions, determining underlying reasons for their existence or occurrence, and implementing corrective actions. A report documenting the investigation shall be written and forwarded by the CSO to the CIH. Recommendations for accident prevention shall also be made in the report and communicated to all site personnel during periodic safety briefings and training sessions.

2.13 MEDICAL SURVEILLANCE PLAN

All persons involved in Abatement Phase activities shall be enrolled in an HAZWOPER and/or asbestos medical monitoring program, as appropriate, prior to working on-site. This requirement ensures that personnel are protected from asbestos and other COPCs that have been identified. In the event that air sampling confirms the presence of asbestos levels above the OSHA PEL, then guidance concerning the requirements for annual medical examinations shall be provided by the Contractor CSO.

2.13.1 Respiratory Protection

All personnel having to wear a respirator must have a medical evaluation as required by 29 CFR 1910.134 to determine fitness to use respiratory protective equipment prior to initiation of work activities. Documentation of fit-testing, medical qualification and training shall be provided for each person who may need to wear respiratory protection on the job. Each Contractor shall maintain a written Respiratory Protection Program developed by a competent Person as required by 29 CFR 1926.103.

2.13.2 Hearing Conservation

All personnel exposed to noise levels above 85 dBA must have a baseline audiometric evaluation in accordance with 29 CFR 1926.52 and 101. Personnel shall receive awareness training concerning the hazards of noise and the procedures to properly use and maintain hearing protection. If any subcontractor exposes his employees to noise levels above 85dba, the Subcontractor must establish a written Hearing Conservation Program developed by a competent person as required by 29 CFR 1926.101 and 29 CFR 1910.95

2.13.3 First Aid

On-site First Aid/CPR/AED support shall be provided by the Contractor CSO. Additionally, each Subcontractor shall have on-site at least one person who has current training in first aid, CPR, and AED use.

2.13.4 Medical Emergency

The first worker who notices that a medical emergency or personal injury has occurred shall immediately make a subjective decision as to whether the emergency is life threatening and/or otherwise serious.

2.13.5.1 Life-Threatening and/or Otherwise Serious Incident

If a life-threatening incident occurs, those persons recognizing the situation should do whatever actions in their capabilities to reduce the threat and then the Contractor CSO shall be contacted. The Contractor CSO shall immediately notify the Emergency Medical Services (EMS) and implement emergency action procedures to have someone meet and guide EMS to the incident location.

The Contractor CSO shall be kept apprised of the situation and the location of the victim(s).

As the Contractor CSO proceeds to the accident scene, communications channels shall be opened and kept on standby until the Contractor CSO has surveyed the scene and performed a primary survey of the victim.

The Contractor CSO shall provide emergency action guidance consistent with the injury and shall relay the appropriate information to the site person meeting the EMS. Depending on the nature of the injury and the location at which the injury occurred, the Contractor CSO shall determine whether the person can be moved or whether the EMS team will need to come into the work area to assist the victim. Should the victim be injured in the Exclusion Zone, all appropriate life-saving methods shall be exercised in that area before attempting decontamination of the victim. The extent of emergency decontamination performed shall depend on the severity of the injury or illness and the nature of the contamination. If the emergency is such that emergency decontamination cannot be performed safely, the victim shall be given necessary first-aid treatment and wrapped in a blanket prior to transportation by EMS. If heat stress is a factor in a victim's injury/illness, all protective clothing shall be removed from the victim immediately.

2.13.5.2 Non-Life-Threatening Incident

Should it be determined that no threat to life is present, a co-worker will assist the injured person and contact the Contractor CSO as soon as reasonably possible. Should the victim be injured in the Exclusion Zone, a rapid decontamination consisting of Tyvek, glove and respirator removal shall be performed in the Contamination Reduction Zone prior to initiation of medical assistance.

For all non-life-threatening injuries, all medical assistance shall be provided in the Support Zone to reduce the spread of contamination to medical personnel or equipment.

2.13.6 Bloodborne Pathogens

When an emergency occurs that involves the potential for contact with bodily fluids, personnel shall use procedures and PPE that minimize the potential for exposure.

All personnel who provided direct support to an injured person shall participate in a post-incident exposure review during which their role in the event and the potential for contact with bodily fluids shall be evaluated. The information relating to exposure shall be documented for each individual. The procedures for the post-exposure consultation identified in the OSHA Blood borne Pathogens Standard (29 CFR 1910.1030) shall be followed.

All personnel on-site shall receive awareness training concerning Blood borne Pathogens (BBP) and the procedures to be followed to respond to emergencies that occur on-site. This awareness training shall be provided by each Subcontractor prior to the initiation of work activities and when new employees are introduced to the Site

2.14 Reporting Emergencies

All site personnel, upon discovering an emergency situation, shall immediately call 911. The CSO shall be notified immediately thereafter and will assume responsibility as the onsite representative to the First Responders. The CSO shall immediately notify OWNER.

2.15 Building Evacuation

Any explosion, regardless of size or type, any structural failure, fires and certain power failures will require a complete building evacuation.

2.15.1 Designated Assembly Area

In the event of an evacuation the designated assembly point for site personnel is:

- #5 Church Street at the NW corner of the intersection of Liberty and Church Streets. Please See Figure 1-2: Designated Assembly Area.

During the safety orientation, all personnel will be instructed to locate and assemble in a manner that will not impede the operations of any business or agency in the area.
No visitors or trade personnel shall leave the assembly point until directed by the CSO. Following an evacuation, nobody shall be allowed to re-enter the Building until cleared by appropriate First Responder, safety, agency or technical personnel investigating the impact of the incident to the Building. The CSO will provide the “all clear” signal to the contractor site managers once it is safe to return to normal work operations.

See Figure 1-2: Designated Assembly Area.

2.16 Response to Specific Emergency Events

Below is a list of unplanned events that may occur during the deconstruction project. This list may not be all encompassing, but represents "events" related to similar projects. These events include:

- Fire or explosion
- Power failure
- Structural failure
- Worker injury or illness
- Unplanned, sudden or non-sudden release of hazardous waste or constituents
- Falling or dropped building debris

2.16.1 Fire or Explosion

In the event of an explosion or a fire, the CSO shall immediately:

1. Call 911
2. Initiate building evacuation procedures as outlined in Section 2.15 of this HASP
3. Meet First responders at the pre-designated location (unless circumstances dictate otherwise, it is the security desk at the Building) for briefing on the scope and nature of the emergency
4. Notify OWNER

Should there be a work stoppage in a certain area due to a fire or an explosion, work will not resume until the SSO verifies that appropriate corrective actions have been taken.

2.16.2 Power Failure

In the event of a power failure, the CSO shall immediately:

1. Call 911, if warranted
2. Coordinate with the site manager and abatement contractor to initiate containment isolation activities (e.g. both the Personnel and Waste Load Out Decontamination units must be immediately sealed to prevent a fiber release).
3. All containment isolation barriers are to remain secure until the required negative pressure has been re-established.

2.16.3 Structural Failure

Deconstruction process will create weakened sections as supporting elements are removed, such as roof sheathing, wall sheathing. In the event of an unanticipated structural failure, the CSO shall immediately:

1. Call 911

2. Initiate building evacuation procedures as outlined in Section 2.15 of this HASP.
3. Coordinate with the site manager and abatement contractor to initiate containment isolation activities (e.g. both the Personnel and Waste Load Out Decontamination units must be immediately sealed to prevent a fiber release).
4. All containment isolation barriers are to remain secure until the required negative pressure has been re-established.

Should there be a work stoppage in a certain area due to a structural failure, work will not resume until the Structural Professional Engineer verifies with the appropriate city and/or governmental agencies that appropriate corrective actions have been taken. Structural failure will be examined by the Owner's Professional Engineer for the Project and the New York City Department of Buildings BEST Squad prior to returning to work.

The Structural Engineer for the Project is:

Boris Hayda
Desimone Consulting Engineers
18 West 18th Street
New York, NY 10011
212-532-2211

2.16.4 Worker Injury or Illness

Potential injuries that may result in a medical emergency include:
• Slips, trips, falls, lacerations
• Trauma injuries caused by being struck by heavy equipment, building components, waste containers, etc.
• Eye injuries
• Burns from electrical, fire or explosion
• Electrical contact or electrocution
• Heat stress/stroke
• Chemical exposures
• Cardiac emergencies
• Respiratory emergencies

The Contractor and its subcontractors will respond to minor injuries requiring first aid only; major injuries or requirements for search and rescue will be handled by First Responders.

If a worker is showing signs of distress or obvious injury or illness, the CSO shall be immediately notified and provided the following information:

1. Location of victim
2. Nature of Emergency
3. Whether the victim is conscious

4. Specific details regarding the injury or illness
5. Whether the victim is in need of decontamination

The CSO will suspend work within the immediate area until the emergency situation has been corrected. If possible the subcontractors' first aid attendant shall treat the injured employee as necessary until a decision is made to seek outside medical assistance or to remove the victim from the Building.

The CSO will be responsible for calling 911 and will inform the First Responders whether asbestos abatement activities are taking place within the Building, and whether or not the injured employee has been brought through the decontamination chamber.

2.16.5 Unplanned, sudden or non-sudden release of hazardous waste or constituents

It is not anticipated that significant quantities of hazardous waste will be found or stored on the site. If hazardous waste is stored on site, a spill response kit appropriate to the type and quantity of hazardous waste identified will be kept on site. In the event of an unanticipated release, the CSO shall immediately:

1. Call 911, if warranted
2. Call NYSDEC Spill Response (800) 457-7362
3. Make a determination whether to implement a building evacuation or control and remediate the release. Procedures for notification to the appropriate regulatory agencies are outlined below.
4. Coordinate with the site manager and abatement contractor to initiate containment isolation activities (e.g. sorbents, application of spill response materials, etc.)
5. Personnel containing the release will be 40-hour HAZWOPER Trained and will have had an 8-hour refresher within the past 12 months.

In accordance with the New York State and New York City Asbestos Rules, if visible emissions occur outside the work area or any air sample within the building but outside the work area indicates a level of fiber concentration at or greater than the 0.01 fibers per cubic centimeter or background levels, work shall stop for inspection and repair of barriers and clean-up of surfaces. Any barriers disturbed will be restored, and clean up of surfaces outside the work area using HEPA vacuums and/or wet-cleaning methods, shall be performed prior to the resumption of abatement activity. Work will not resume until the onsite Environmental Consultant verifies that appropriate corrective actions have been taken. Airborne levels of asbestos fibers outside the work area will be closely monitored to ensure that they are below background /action levels.

In addition, this project will have in place an exterior air sampling program, as presented in Part II, Environmental Community Air Monitoring Plan (ECAMP), of the Deconstruction Plan. Per this plan, the USEPA Region 2 office (any exceedance) and NYCDEP (asbestos exceedance only) will be notified promptly via phone and electronic

mail of any exceedance of either a Target Air Quality Level or a USEPA Site Specific Trigger Level and will be notified promptly of any corrective actions taken in connection with the Target Air Quality Level exceedance and the implementation of corrective actions in connection with USEPA Site Specific Trigger Level exceedance.

If exterior ambient air monitoring detects any potential contaminants of concern (COPCs) as identified within Part II, ECAMP, of the Deconstruction Plan above the relevant USEPA Site Specific Trigger Levels, the appropriate actions will be taken as detailed in ECAMP, Section 5.2, EPA Site Specific Trigger Levels. USEPA Region 2 and NYCDEP will be notified regarding the exceedance and the implemented corrective measures, if any, are appropriate, as detailed in ECAMP, Section 5.3, Notification.

For any releases of hazardous/regulated wastes to the exterior of the Building, the CSO will call 911. The following agencies will also be notified EPA, NYCDEP, OSHA, NYSDEC, DOH, DOHMH and NYCDOB.

If there is a work stoppage due to an unplanned release of hazardous/regulated waste, work will not resume until the CIH has determined the cause and verified with the appropriate city and/or governmental agencies that appropriate corrective measures have been taken.

2.16.6 Falling or dropped building debris.

Deconstruction process will involve hand-demolition of building masonry façade. In the event of unanticipated dropping of debris, the CSO shall immediately:

1. Call 911, if warranted
2. Stop Work and identify source of dropped debris.
3. Coordinate with the site manager and demolition contractor to review work practices and site protection.
4. The Site Manager will contact NYC Department of Buildings, if warranted.

No work is to re-commence until work practices and site protection have been adjusted to prevent a recurrence. If any structural deficiency is noted, the Structural Engineer for the project, and the New York City Department of Buildings, if warranted, will be called to inspect and approve remedial actions.

3.0 DOCUMENTATION

Each Contractor shall maintain documentation, as established by the Contractor, which shall record, at a minimum, the following information:

- The Contractor employees on Site, including arrival and departure times and their destination at the Site.

- Information required to be maintained by the OSHA respiratory protection standard, including medical clearance documents, training and certification records, fit-test records, and the results of personal air monitoring used to determine employee exposures. Additionally, all medical and sampling documentation required by OSHA's Lead in Construction standard must be maintained.

- Area air testing results

- Incidents and unusual activities that occur at the Site, including but not limited to injuries, illnesses, accidents, spills, breaches of security, equipment failures, weather-related problems and near-misses.

- Records of daily safety briefings, including attendance documentation for all employees required to attend.

- Records of health and safety inspections by governmental agencies

- Records of corrective actions performed in response to any deficiencies noted through government agency inspection or by the Contractor CSO.

Attachment 1

List of Acronyms

ABIH	American Board of Industrial Hygiene
ACGIH	American Conference of Governmental Industrial Hygienists
ACBM	Asbestos Containing Building Materials
AL	Action Level
ANSI	American National Standards Institute
APR	Air-Purifying Respirator
CFR	Code of Federal Regulations
CGI	Combustible Gas Indicator
CIH	Certified Industrial Hygienist
COPCs	Contaminants of Potential Concern
CPR	Cardiopulmonary Resuscitation
CRZ	Contamination Reduction Zone
CSO	Contractor Safety Officer
dBA	decibels adjusted (decibels on the "A" scale)
EC	Emergency Coordinator
EMS	Emergency Medical Service
EMT	Emergency Medical Technician
ER	Emergency Response
ERT	Emergency Response Team
EZ	Exclusion Zone
f/cc	Fibers per cubic centimeter
FEC	Facility Emergency Coordinator
GFCI	Ground Fault Circuit Interrupter
H&S	Health and Safety
HAZWOPER	Hazardous Waste Operations and Emergency Response
HCP	Hazard Communication Program
HCS	Hazard Communication Standard
HEPA	High Efficiency Particulate Air
HMTA	Hazardous Materials Transportation Act
IC	Incident Commander
IDLH	Immediately Dangerous to Life and Health
IH	Industrial Hygienist
lbs	pounds
LEL	Lower Explosive Limit
MAWP	Maximum Allowable Working Pressure
mg/m^3	milligrams per cubic meter
MSDS	Material Safety Data Sheet
MSHA	Mine Safety and Health Administration
NIOSH	National Institute for Occupational Safety and Health

NYCDEP	New York City Department of Environmental Protection
SSM	Site Safety Manager
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limits
PM	Project Manager
ppm	parts per million
psia	pounds per square inch, absolute
psig	pounds per square inch, gauge
Q&P	Quality and Protection
SAR	supplied air respirator
SCBA	self-contained breathing apparatus
SOW	Scope of Work
SSHO	Site Safety and Health Officer
STEL	Short-Term Exposure Limit
SZ	Support Zone
TWA	Time-Weighted Average
WTC	World Trade Center

Attachment 2

Asbestos Surveys

Attachment 3

HASP Acknowledgement Form

ATTACHMENT 3

Contractor/Sub-Contractor/Visitor HASP Acknowledgement

HASP Received by: _____ Date: _____

Print Name _____

Affiliation: _____

Address _____ Phone_____

HASP Received by: _____ Date: _____

Print Name _____

Affiliation: _____

Address _____ Phone_____

HASP Received by: _____ Date: _____

Print Name _____

Affiliation: _____

Address _____ Phone_____

HASP Received by: _____ Date: _____

Print Name _____

Affiliation: _____

Address _____ Phone_____

HASP Received by: _____ Date: _____

Print Name _____

Affiliation: _____

Address _____ Phone_____

_Ernesto Carranza_____ is the designated Contractor Safety Officer (CSO) for this project. His contact numbers are _MOBILE 516-250-9671 _____ as indicated in Attachment A. These are the primary Contractor emergency contact phone numbers, and both are 24-hour contact numbers. The CSO's base of operations will be the Contractor's field office (trailer). In the event that Mr. _Carranza_____ is not on site, an alternate CSO will be designated and will be responsible for ensuring proper implementation of this HASP.

Figure 1-1 Site Map and Directions to NY Downtown Hospital

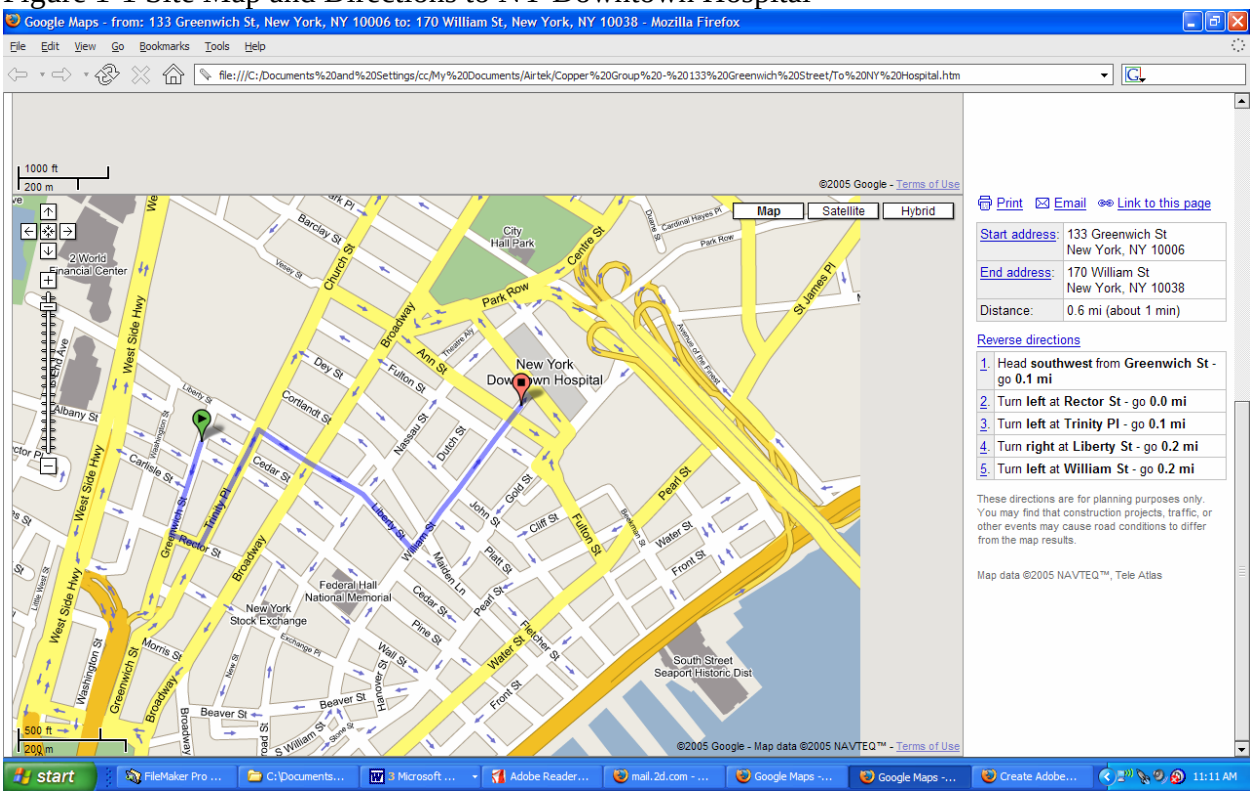

Figure 1-2 133-135 Greenwich Street & 21-23 Thames Street - Assembly Area

Attachment 4

CONTACTS/EMERGENCY TELEPHONE NUMBERS

PROJECT NAME: 133-135 GREENWICH/21-23 THAMES STREET DECONSTRUCTION PROJECT

THE FOLLOWING ARE THE TELEPHONE NUMBERS WHERE PROJECT PERSONNEL CAN BE REACHED AT ALL TIMES. IN ADDITION, THE EMERGENCY TELEPHONE NUMBERS OF OTHER VITAL AGENCIES ARE LISTED.

ENVIRONMENTAL CONSULTANT
AIRTEK CORPORATION (212)768-0516

PRINCIPAL:	Benn Lewis	MOBILE	(917) 295-0810
SENIOR PROJECT MANAGER:	Mike Porter	MOBILE	(917) 337-4325
ALT. PRINCIPAL:	Mike Zouak	MOBILE	(917) 495-9242
CIH (Health & Safety Officer):	Clifford Cooper	MOBILE	(914) 388-9796

ABATEMENT CONTRACTOR
HAZARDOUS ELIMINATION (631)752-2898

PRINCIPAL:	Don Gold	MOBILE	(516) 250-0174
SITE MANAGER:	Daniel Zelik	MOBILE	(516) 250-0176
CONTRACTOR SAFETY OFFICER (CSO):	Ernie Carranza	MOBILE	(516) 250-9671

DEMOLITION CONTRACTOR
BREEZE NATIONAL (718) 254-8070

PRINCIPAL:	Toby Romano	OFFICE	(718) 254-8070
CONTRACTOR SAFETY OFFICER:	Dyal Ramcharan	MOBILE	(917) 682-8947

STRUCTURAL ENGINEER
DESIMONE CONSULTING ENGINEERS

ENGINEER:	Boris Hayda	OFFICE	(212) 532-2211

LOCAL EMERGENCY TELEPHONE NUMBERS

FIRE	911				
AMBULANCE	911				
HOSPITAL	NYU Downtown Hospital	170 William St	911	OR	(212) 312-5000
POLICE	NYC Police Dept	2 Lafayette St	911	OR	(917) 454-1100

NYC DEP	311
NYSDEC Spill Response	(800) 457-7362
Poison Control Center	(800) 962-1253
National Response Center	(800) 424-8802